

PROJECT GOAL

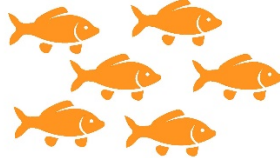
Examine how climate change may affect the vulnerability of the Edmonton Metropolitan region (EMR) to invasive species, and develop a detailed guide to help municipalities address these vulnerabilities.

POTENTIAL EFFECTS OF CLIMATE CHANGE ON PESTS AND INVASIVE SPECIES IN THE EMR



New Species Arrivals

Reduced climatic barriers allow new species to thrive.



Population Expansion

Better winter survival rates, increased competitiveness and herbicide resistance.



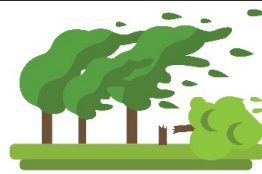
More Dispersal

More opportunity for dispersal during extreme weather events.



Rapid Reproduction

Genetic traits enable rapid response to earlier springs and more reproductive cycles in a growing season.



More Habitat

Ability to take advantage of stressed native ecosystems and urban forests, or newly disturbed sites after extreme weather events.



More Vulnerable Hosts

Native species stressed or damaged due to climate change impacts will be more vulnerable to attack.

WHY DOES THIS MATTER?

Invasive species and pests in the EMR have many ecological, social, and economic impacts which affect the region's vulnerability. Climate change will increase our vulnerability.

- Health and safety risks
- Tree damage
- Reduced biodiversity and wildlife habitat
- Erosion
- Degraded aquatic area recreation access
- Wildfire risk
- Damage to drainage systems, roads, building foundations, and other infrastructure
- Degraded productivity of agricultural land
- Reduced property values

THE WORST INVADERS IN A CHANGING CLIMATE

These species have either recently arrived in the EMR or may become future concerns. They are among the worst and most costly invasive species threats to the region.



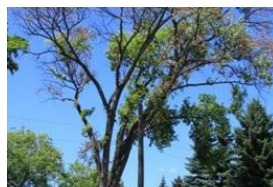
Bohemian Knotweed

increases soil erosion and penetrates asphalt, building foundations, retaining walls, and drains

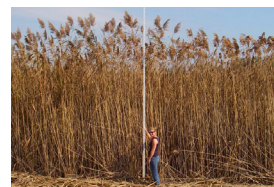


Emerald Ash Borer

attacks and kills all species of ash trees and is nearly impossible to eradicate once present



Dutch Elm is a fungal disease transmitted by bark beetles that infects and kills trees



Common Reed

(Phragmites) are very combustible in dry conditions and can reduce water levels in wetlands, affecting biodiversity



Zebra and Quagga

Mussels have potential to substantially alter aquatic ecosystems, and can also clog municipal drainage pipes and water intakes

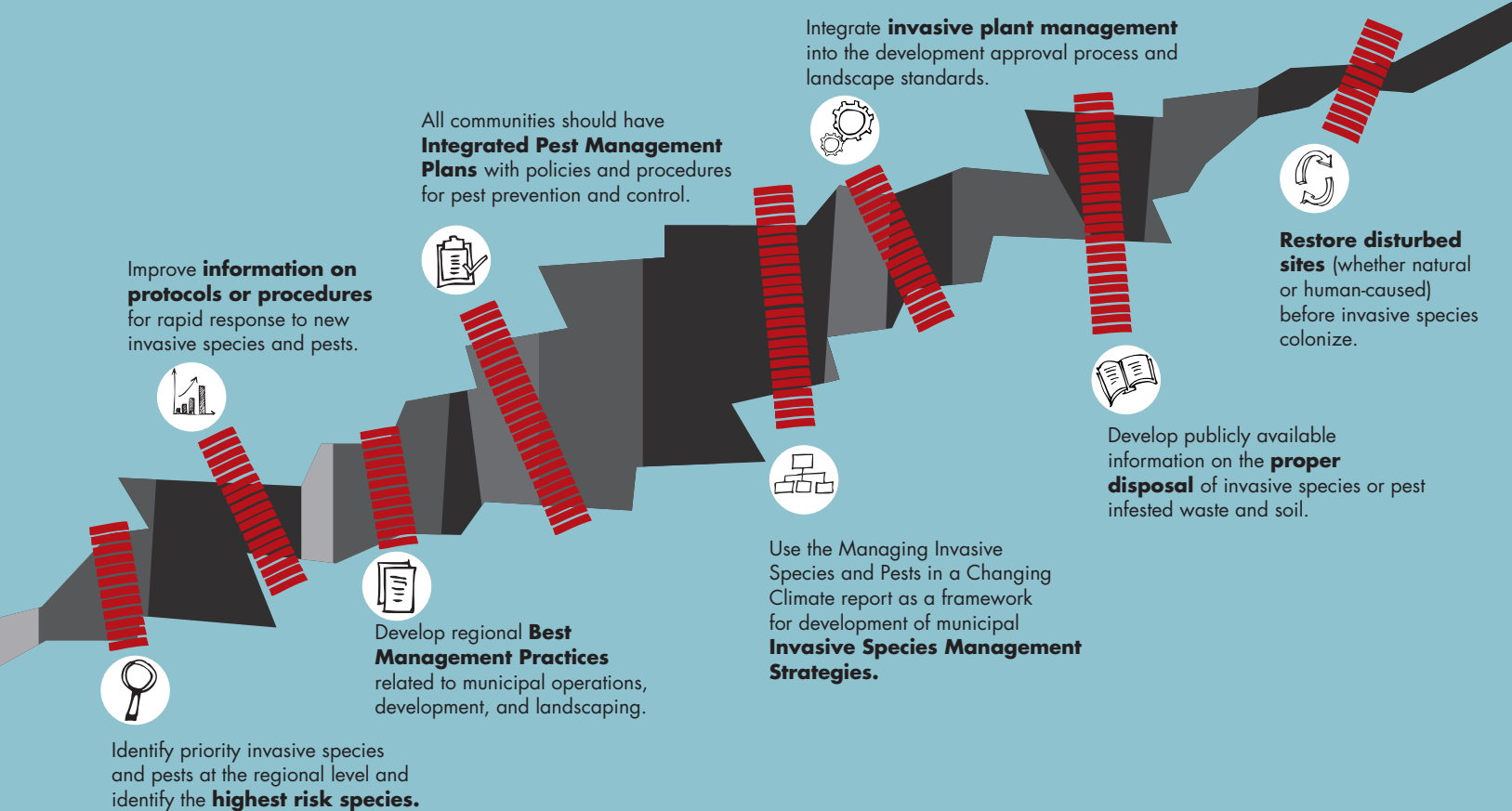
INVASIVE SPECIES MANAGEMENT IN A CHANGING CLIMATE

EDMONTON METROPOLITAN REGION CLIMATE RESILIENCE EXCHANGE

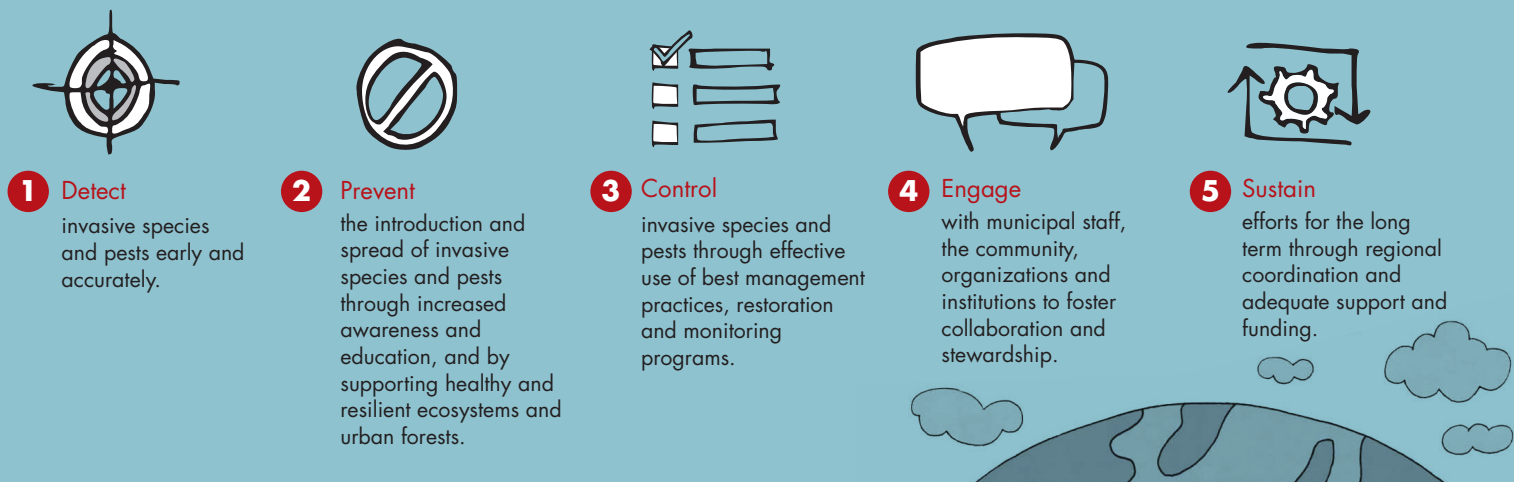
This is a summary of research
conducted by Diamond Head Consulting.
For more information visit:
[allonesky.ca/regional-climate-
adaptation-collaborative](http://allonesky.ca/regional-climate-adaptation-collaborative)



TO IMPROVE OUR RESILIENCY, WE SHOULD ADDRESS GAPS IN INVASIVE SPECIES MANAGEMENT



FIVE ESSENTIAL STRATEGIES FOR REDUCING OUR VULNERABILITY



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MUNICIPAL PARTNERS

